



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Work Order ID 83359

\*83359\*

Page 2

April-17-12 2:21:45 PM

Item ID: D3691-1

Accept

\*N900040100\*

Setup Start \*NS1\*

Revision ID:

Stop \*NS2\*

Item Name: STUD

Start Date: 17/04/2012 Start Qty: 16.00

\*16\*

Cust Item ID:

Required Date: 01/05/2012 Req'd Qty: 16.00

\*16\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start \*NR1\*

QC:

Date:

SPC (Y/N):

Date:

Stop \*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

170

QC8- Inspect parts - second check

0.00

\*170\*

QC

Memo

0.00

SL 12-06-03

Quality Control

100% CHECK,CHECK ALL DIMENSIONS AND THREAD FIT

171

0.00

\*171\*

Purchasing

Memo

0.00

Purchasing

Liquid Penetrant Inspection as per QSI 038  
Issue P/O: 17380  
LPI as per dwg D3691  
Attach copy of NDT results to work order

CD 12/07/09 (16)

173

Receive & Inspect for Damage & Mat'l Certs

0.00

\*173\*

Packaging

Memo

0.00

Packaging

P 12/1/13 (16)

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# Work Order ID 83359

April-17-12 2:21:45 PM

**\*83359\***

Page 3

Item ID: D3691-1

Accept

**\*N900040100\***

Setup Start **\*NS1\***

Revision ID:

Stop **\*NS2\***

Item Name: STUD

Start Date: 17/04/2012 Start Qty: 16.00

**\*16\***

Cust Item ID:

Required Date: 01/05/2012 Req'd Qty: 16.00

**\*16\***

Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start **\*NR1\***

Stop **\*NR2\***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
175	QC5- Inspect part completeness to step on W/O	0.00							
<b>*175*</b>									
QC	Memo	0.00				16			12-07-09
Quality Control									
180	Identify as per dwg & Stock Location: <u>GA</u>	0.00							
<b>*180*</b>									
Packaging	Memo	0.00				16			12-07-09
Packaging									
190	QC21- Final Inspection - Work Order Release	0.00							
<b>*190*</b>									
QC	Memo	0.00							
Quality Control									

12-07-09

W/O:		WORK ORDER CHANGES					
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**NOTE:** Date & initial all entries

# Picklist Print

April-17-12 2:21:49 PM

Page 1

Work Order ID: 83359

\*83359\*

Parent Item: D3691-1

\*D3691-1\*

Parent Item Name: STUD

Start Date: 17/04/2012

Required Date: 01/05/2012

Start Qty: 16.00

Required Qty: 16.00

Comments: IPP Rev:A New Issue 08-01-29 JLM Verified By:EC  
 IPP Rev:B Material Change 09-01-07 JLM Verified By:EC IPP  
 REV:C AS PER REV D 10-03-16 JLM VERIFIED BY:EC  
 IPP Rev:C Added note on Step 2 09-01-26 JLM Verified By:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M174PH-H900R1.000		Purchased	No				f	75.4800		11.68584			
*M174PH-H900R1 000*									**			SN 12/6/10	
17-4SS H900 ROUND BAR 1.00													

Location	Loc Qty	Loc Code
MAT030	75.48	
117445	1.23	
120767	11.75	
<del>121280</del>	62.5	

121918

→ 10.5 Pt

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**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	83359
<b>Description:</b> Stud		<b>Part Number:</b>	D3691-1
<b>Inspection Dwg:</b> D3691 <b>Rev:</b> D		<b>Page 1 of 1</b>	

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article    ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.695	+/-0.010	.695	/		SA-9	W/L
45°	0.5°	45°	/			
0.625	+0.004/-0.000	.625	/			
1.25	+0.000/-0.03	1.235	/			
118°	0.5°	118°	/			
R0.03	+/-0.030	R.03	/			
0.11 Ref	+/-0.030	.11	/			
90°	0.5°	90°	/			
Ø0.189	+0.005/-0.001	.190	/			
1.31	+/-0.030	1.320	/			
1.65	+/-0.030	1.660	/			
0.750	+0.000/-0.010	.747	/			
Ø0.659	+0.000/-0.015	.652	/			
7.625	+/-0.015	7.630	/			
2.90	+/-0.030	2.900	/			
3/4-16UNF-2A	N/A	2A	/			
0.075 x 45°	+/-0.010 x 0.5°	.075	/			
0.375	+0.000/-0.010	.373	/			
Ø0.189	+0.005/-0.001	.190	/			
R0.25	+/-0.030	R.25	/			
R0.50	+/-0.030	R.50	/			

<b>Measured by:</b>	SA/12
<b>Date:</b>	12/6/11

<b>Audited by:</b>	SL
<b>Date:</b>	12-06-03

<b>Prototype Approval:</b>	N/A
<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	09.05.11	New Issue	KJ	
B	09.11.04	Dwg Rev updated	KJ	
C	10.03.31	Dimensions revised per Dwg Rev D	KJ	

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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

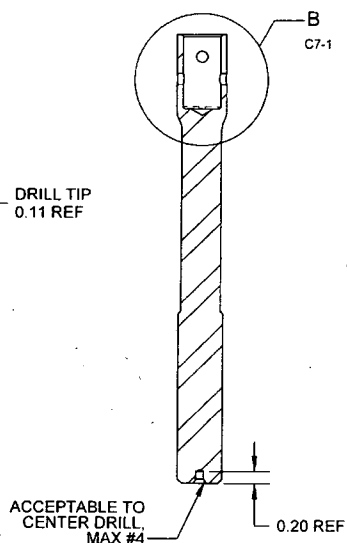
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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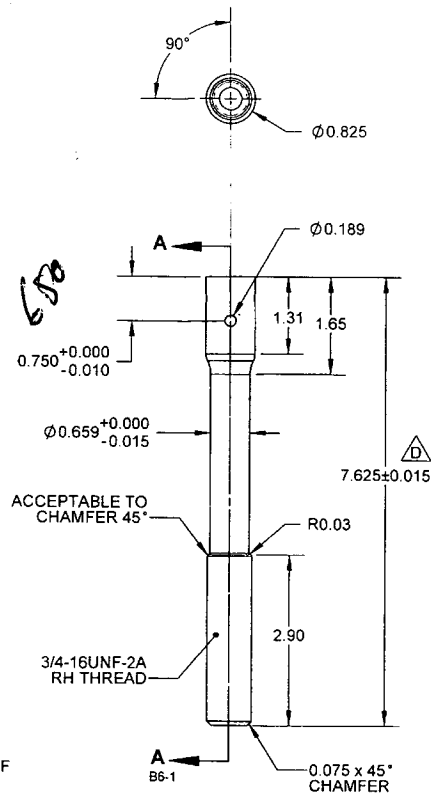
SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. 83359 ML

1) MATERIAL: 17-4PH STAINLESS STEEL ROUND BAR PER AMS 5643 H-900 CONDITION  
2) FINISH: NONE  
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED  
4) TUNERS: INCHES UNLESS OTHERWISE NOTED  
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX  
6) IDENTIFICATION: NONE  
7) WEIGHT: 0.81 lb  
8) LPI PER QSI 038 4.1.1 (ASTM E1417 LEVEL 2)

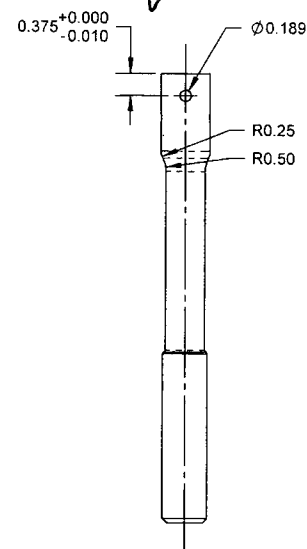


**SECTION A-A**




D4-1



**D3691-1 STUD**



RELEASE  
2010-03-15

D	7.625 WAS 7.750 (ZN C4-1)	RF	10.03.03
C	0.20 WAS 0.16 & CENTER DRILL #4 WAS CENTER DRILL #2 (ZNB6-1); UPDATE NOTE 8 TO REF QSI (ZN A8-1)	RF	09.09.08
B	CHANGE TO 17-4PH H-900(ZN A8-1); Ø0.695 WAS Ø0.665 (ZN D8-1); REFORMATTED TO CURRENT DWG STANDARDS	RF	08.11.24
A	NEW ISSUE	RF	08.03.12
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. D
MFG. APPR.		D3691	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		STUD	NTS
DATE	10.03.03	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND NOT BE LOANED, REPRODUCED OR COPIED IN ANY MANNER WITHOUT PERMISSION. IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT PERMISSION.	

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## LIQUID PENETRANT TEST REPORT

P- 12193

CLIENT DAVE AERO SPACE DATE July 4-6-2012 PAGE 1 OF 1  
ATTENTION LINDA/ANDY ACUREN JOB NO. 188-12-0278 TIME AM ☒ PM ☐  
ADDRESS 1270 ABELEEN ST. HAWKESBURY PO/WO No. (17380) -  
ON. WORK LOCATION SAME  
ACCEPTANCE STD. ASTM 1417/BS1-038 REV./DATE 2008  
PROJECT FPI. on MACHINED PARTS  
ITEM(S) EXAMINED RAPPEL'S, STUDS, SLEEVE'S

JOB DESCRIPTION PROCEDURE NO. LT 1002 REV./DATE 2008 TECHNIQUE NO. LT 1417 REV./DATE 2008  
PART NO. SEE RESULTS MATERIAL STAINLESS STEEL THICKNESS VARIOUS  
SCOPE A WET FLUORESCENT LIQUID PENETRANT EXAMINATION  
WAS COMPLETED ON SURFACE 100%

TEST DETAILS  
METHOD ☒ FLUORESCENT ☐ VISIBLE ☒ WATER WASH ☐ SOLVENT REMOVABLE ☐ POST EMULSIFIED  
FAMILY BRAND MAGNAFLUX BLACK LIGHT S/N 16459 ☐ OUTPUT > 1000  $\mu$  W/cm<sup>2</sup> ☐ AMBIENT < 2 fc  
PENETRANT 2LG7 MINIMUM DWELL TIME 45 MIN. LIGHTING EQUIP. ☐ FLASHLIGHT ☐ TROUBLELIGHT ☐ OUTPUT > 100 fc @ SURFACE  
PENETRANT REMOVER H2O MINIMUM DRY TIME >10 MIN. OTHER CABINO  
DEVELOPER SADSS2 MINIMUM DWELL TIME 10 MIN. LIGHT METER S/N 1098866 CAL DUE DATE July 15, 2012  
DEVELOPER TYPE ☒ NON AQUEOUS ☐ AQUEOUS ☐ DRY

TEST SURFACE  
SURFACE CONDITION ☐ AS GROUND ☐ AS WELDED ☒ MACHINED ☐ SHOT BLASTED ☒ CLEAN BARE METAL  
SURFACE TEMPERATURE ☐ < -4°C/ 20°F ☐ -4°C/ 20°F TO 10°C/50°F ☒ 10°C/50°F TO 52°C/125°F ☐ > 52°C/125°F

RESULTS- ☒ METRIC ☐ IMPERIAL

W.O.#	STUD	✓
5 81735	" "	✓
30 81733	" "	✓
16 83359	" "	✓
W.O.#	RAPPEL	✓
5 84719	" "	✓
W.O.#	SLEEVE	✓
15 83358	" "	✓

JW 12-07-09

Scope of Services  
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care  
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES  
CLIENT REPRESENTATIVE Andy Sheldon PRINT ASheldon SIGNATURE DTR # E-163666  
TECHNICIAN (SIGNATURE): [Signature] REPORT REVIEWED BY:  
NAME (PRINT): Mike Jones NAME INITIALS  
CGSB LEVEL 2 SNT LEVEL 2 CGSB LEVEL 2 SNT LEVEL 2  
CGSB REG. NO. 6606 CGSB REG. NO. 6606

WHITE - CLIENT COPY

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